

**PSEUDOCOCCUS GOODENIAE WILLIAMS (HEMIPTERA:  
PSEUDOCOCCIDAE) AND ITS PARASITOIDS IN THE PILBARA  
OF WESTERN AUSTRALIA**

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**Abstract**

*Pseudococcus goodeniae* Williams, previously known only from the Erskine Range in northern Western Australia, is recorded from Karijini National Park in the Pilbara region. The mealybug was observed at high densities on its host plant *Goodenia stobbsiana* (Goodeniaceae). Several hymenopteran parasitoid species were reared from *P. goodeniae*, including *Xenanusia pulchripennis* Girault, *Cheloneurus* Westwood sp., two unidentified species of Encyrtinae (all Encyrtidae) and *Euryischia* Girault sp. (Aphelinidae). This is the first published host association for a species of *Xenanusia* Girault.

**Introduction**

Exploration for parasitoids of the Pink hibiscus mealybug, *Maconellicoccus hirsutus* (Green), was conducted from 1999 to 2001 in tropical and subtropical eastern and northern Australia (Goolsby *et al.* 2002). During this exploration effort, collections of several mealybug species and their parasitoids were made in the Pilbara of Western Australia. One mealybug, *Pseudococcus goodeniae* Williams, was particularly abundant during our survey of the Pilbara and is the subject of this paper.

**Materials and methods**

Surveys were conducted on 6 May 2001, at Fortescue Camp (22°28.19'S, 118°33.27'E) and Weamo Gorge (22°21.46'S, 118°17.17'E) in Karijini National Park, located in the Pilbara region of Western Australia.

After field collection, the mealybugs were held in paper cans streaked with honey and held in a humiditron (Debach and Rose 1985) at 70% RH for emergence of parasitoids. Mealybugs were sent to John Donaldson in Brisbane and parasitoids to Michael Gates in Washington D.C. for identification and vouchering.

Collections by the Australian Biological Control Laboratory (ABCL) were assigned a specific site collection number. Each accession number is unique, prefaced by the acronym for the laboratory with the year collected, a three digit serial number associated with the field collection, followed by a sequential specimen number (*i.e.* ABCL 2000809.007). If an organism is later exported to the United States for a biological control program, the number is used as an identifier in the ROBO (Releases of Beneficial Organisms) database that is maintained by USDA-Agricultural Research Service.

## Results and discussion

*Pseudococcus goodeniae* was collected feeding on *Goodenia stobbsiana* F.Muell. (Goodeniaceae). The plant was common along the walking tracks in the National Park, with high densities of mealybugs on all the plants we encountered. Mr Kevin Cameron, a local aboriginal ranger familiar with the native plants of the Pilbara, indicated that he had never before noted an outbreak of mealybugs on *G. stobbsiana*. We did not observe *P. goodeniae* on any other plant species in the vicinity of the collections.

*P. goodeniae* was previously known only from the type series, collected in 1980 from *Goodenia* sp. in the Erskine Range of northern Western Australia (Williams 1985). Several hymenopteran parasitoid species, mostly encyrtids, were reared from *P. goodeniae* (Table 1). *Xenamusia pulchripennis* Girault was the most common parasitoid in the collection and this is apparently the first host record for a species of *Xenamusia* Girault (Noyes 2003). This is the first Australian host record for a species of *Euryischia* Girault (Aphelinidae), although the genus has been recorded attacking an unidentified species of *Pseudococcus* Westwood in India (Agarwal 1970). The *Cheiloneurus* Westwood species could be a hyperparasite of *X. pulchripennis*.

**Table 1.** Parasitoids (all Hymenoptera) recovered from *Pseudococcus goodeniae*.

Species and family	ABCL #	Location	Date
<i>Xenamusia pulchripennis</i> Girault [Encyrtidae]	2001840.002	Fortescue Camp	6.v.2001
<i>Euryischia</i> sp. [Aphelinidae]	2001840.003	Fortescue Camp	6.v.2001
	2001840.004		
	2001840.005		
<i>Cheiloneurus</i> sp. [Encyrtidae]	2001840.007	Fortescue Camp	6.v.2001
	2001840.008	Weamo Gorge	6.v.2001
	2001841.002		
Encyrtinae sp.1 [Encyrtidae]	2001840.006	Fortescue Camp	6.v.2001
	2001840.011	Weamo Gorge	6.v.2001
	2001841.003		
Encyrtinae sp.2 [Encyrtidae]	2001840.009	Fortescue Camp	6.v.2001
	2001840.010		

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